THE FARMERS' CABINET.

DEVOTED TO AGRICULTURE, HORTICULTURE AND RURAL ECONOMY.

Vol. II.—No. 1. Philadelphia, Aug. 1, 1837. Whole No. 25.

For the Farmer's Cabinet.

OBSERVER—No. IX.

TAIL EVIL.

It frequently happens, that the most erroneous opinons spread to an almost universal extent, and assume the sanctimonious garb of established truths. This was exemplified in the popular opinion respecting *hollow horn*. An instance, not less remarkable, is to be found in the common opinion, among the people, of the *tail evil* or *tail slip*.

The name is intended to express a wasting of the extremity of the bone of the tail—whereby, a portion of that member becomes *soft and flexible*, or even *hollow*, as many express it. In our country, the *tail ill* is very commonly associated with *hollow horn*, and believed to constitute one of its characteristic symptoms. In Europe, where *hollow horn* does not exist, the *tail slip* is made the concomitant of a variety of other diseases among cattle.

The wide spread prevalence of an opinion is not sufficient evidence of its correctness. The general belief in the existence of *tail evil*, does not prove that it really has an existence. It is almost a century since twelve cows, which died in Saxony of supposed murrain, were dissected by the celebrated Leiberkuhn, who "*examined, and divided the tail in various parts, and found it in its natural state.*"

Youatt, in his recent work on British cattle when treating of palsy, says, "in many parts of the kingdom, this complaint is traced to a most ridiculous cause. The original evil is said to be in the tail—and all maladies of this kind, involving the partial or total loss of motion of the hind limbs of the animal, are classed under the name of *tail-ill*, or *tail-slip*." "The farmer, and the cow-leech, believe that the mischief passes along the cow's tail, to the back, and that it is on account of something wrong in the tail, that she looses the use of her legs. And, then, some set to work and cut the cow's tail off, while others, less cruel, or more scientific, make an incision in the under surface and allow the wound to bleed freely, and then fill it up with a mixture of tar and salt, and we know not what. In some parts of the country the practitioner is not content with this treatment, but, supposing there is witchcraft in the business, he has recourse to some *charm*, in addition to the cutting and dressing. This charm consists in binding a small piece of the rowan tree on the extremity of the tail, and making a *black cat* pass three times round the cow's body, over her back and under her belly, which, (if it happens to be a strange cat, which is often the case, from the necessity of the colour being black) so enrages the animal, that she mews, and scratches, with all the fury to which she is so easily excited, until she escapes from the hands of the necromancers, leaving them convinced that the *devil* has got into the cat."—pp. 301—2.

I have never examined a great many tails, in quest of the *tail evil*, but, in every instance, have found them, as Leiberkuhn did, in a "natural state." To me it seems just as consistent with reason and analogy, to believe that the cow is affected with *witchcraft*, as with the *tail evil*—and the application of the *black cat*, is about as scientific as that of the *tar and salt*—with this difference, however, that in many diseases, the bleeding from the wound, and the acid substances with which it is filled, may produce a salutary effect on distant organs, in spite of the wrong philosophy by which they were directed.

An Edinburgh writer, in the Quarterly Journal of Agriculture, speaking of the *tail slip*, says "the disease, in ordinary cases, is said to consist in a softening of the bones about the extremity of the tail, and is to be distinguished by the point of the tail being easily doubled back upon itself, and having, at this doubling, a soft, and, rather a crepitating kind of feel. But what is the real state of the case?—The tail is lengthened out to the extent of about three feet and is formed like a common whip. Towards the extremity, the bones terminate gradually, becoming insensibly smaller as they proceed downwards. At this part is said to be found a soft space—the *tail slip*. Beyond this, again a firm, swelling, cartilaginous portion is found, covered with hair, to brush off the flies within its reach. Now, why have we the long column of bones; the termination of a soft space of a few inches; this thickened, hard, cartilaginous part, at the very extremity, and that extremity covered with hair, but with a view to form a whip to drive off, and with the greatest possible effect, the insects which wound and torment the animal! Here the column of bones forms the shaft or handle of the whip—the soft part the connexion between the handle and the thong—while the thickened extremity may be easily recognized to represent the thong—and the hairs to form the lash or point; so that we have a whip to drive away the flies, and so complete a one, that the coachman may borrow a lesson from its construction."

This very appropriate and natural whip, so happily described, ought to whip the *tail evil* out of the mind of every one who reads it. I have endeavored to show, that the *hollow horn* is the natural state of the horn. So, also, the *tail evil* appears to be the natural state of the tail.

New-Garden, 6 mo. 30th, 1837.

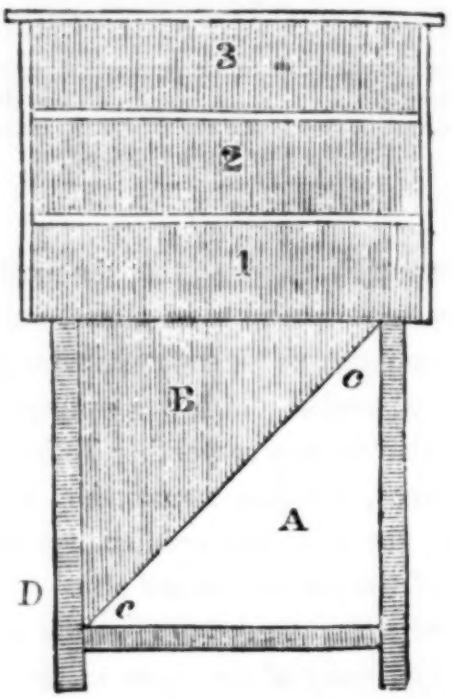
For the Farmer's Cabinet.

Improved Bee Hive.

Mr. Editor,—The following representation of a BEE HIVE cannot fail to be interesting, to those of your readers, who are interested in rearing and managing bees. It is a fact, of which many bee growers have a very unprofitable experience, that the enemies of the bee have increased for several seasons past. This fact has given rise to the invention of different kinds of hives; some of which are ingenious and useful; but the most of them are too expensive for general use.

I have seen none that, in my opinion, embraces so many advantages as the one here represented. A is a stand, the legs of which are 16 inches high, the stand itself 18 inches square. B represents a three cornered box.* open on the top; with a slanting bottom c c; a space is to be left open in the front of the hive the whole length at D, to admit the bees and allow the dirt to slide off the slanting bottom.

Fig. 1.



1, 2, and 3, are boxes on hives, 19 inches square and 7 inches high, with slats nailed across, a sufficient distance from each other to admit the free passage of the bees; bars are to be put across the hive to support the comb. The top to be secured by a tight cover. The bees enter at D, and pass up the slanting bottom of the stand into the boxes above, and the boxes can be increased by adding others, always placing the additional boxes nearest the stand.

This hive possesses the following advantages over the hives in common use.

I. *It prevents the ravages of the miller*, whose worm is the bee's most fatal enemy. The miller deposites its eggs in the bee dirt; which in the common hive is constantly accumulating on the bottom. This difficulty is obviated by the slanting bottom of the stand; the dirt falling on this rolls out at D, and the bottom is kept clean.

II. *The cruel practice of destroying the bees* is entirely superseded by the use of this hive. By blowing a small quantity of tobacco smoke into the upper box, through a hole made for that purpose, the bees will descend into the box next below; the upper box can be removed; fifty or sixty pounds of honey, entirely free from dead bees and dirt, can thus be taken from a good hive; and enough remain to winter the bees without any risk of loss.

III. *The swarming of the bees can be regulated* by the rise of this hive, and the new

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swarms taken at the season of the year when they are most valuable. The bees can be prevented swarming again for the season, by additional boxes, as the young bees increase.

IV. *This hive is cheap* and requires but little mechanical knowledge in its construction; any farmer with ordinary tools can make it from the above description.

I hope bee growers generally will be disposed to give the hive a trial. It is very desirable when we feed on the *sweets* collected by the art and industry of this little insect, that we should not be pained with the reflection that *our* enjoyment is at the expense of *its* life. If any are induced to abandon the practice of destroying the bees, and adopt the above plan, my object in writing will be accomplished.

A LOVER OF GOOD THINGS.

Alleghany co., April 25th, 1837.

For the Farmer's Cabinet.

AGRICULTURAL IMPLEMENTS.

NO. X.

THE STRAW AND CORN-STALK CUTTER.

There are a great variety of machines in use for this purpose, some with knives or cutters placed upon the periphery of a wheel, others with cutters upon the face or end of a wheel; in both kinds the cutters pass by and rub against a piece of steel fixed to the box in such a manner as to cut the desired object, and the steel at the same time tends to keep the cutters sharp.

The objections generally made to the former, is the difficulty of preserving the form so as to press against the whole face of the fixed steel, owing to the twist (or irregular form varying from straight lines) which the cutters must necessarily have when presented at a proper angle with the steel.

The objection to the latter is the difficulty of preserving a sufficient degree of correctness between the shaft and box in which it turns to cause the cutters to press against the steel with a proper degree of force to cut the object perfectly, and at the same time preserve a perfect edge. And, also, the difficulty of pushing the object to be cut forward between the different cutters.

Another kind which has also a continuous circular motion, but instead of rubbing against a fixed steel, the cutters are placed upon the periphery of the wheel and extend in radius or direct lines from it, the edge of each cutter is in a line parallel with the centre of the wheel or cylinder; these edges, as they revolve, press against the periphery of another cylinder composed of wood, lead, or other substance, so as to cause the *object* to be cut between the cutters and cylinder. The objections to this kind are the injurious effect upon animals eating the lead which is necessarily worn off the cylinder, by the action of the cutters upon it; and other substances either injure the edge of the cutters or are liable to wear away too rapidly.

Another kind is where the cutter, instead of moving in a circuitous circular direction as the three kinds described above, moves in an alternating direction, attached to a slide which moves in vertical grooves, and cuts in its descent, and the object to be cut is pushed forward (while the cutter ascends) by a lever and catch acting on a ratchet wheel or wheels; the edge of the cutter is at a proper angle with the line of motion, say forty-five degrees or other suitable variation, and is made to press against the face of a piece of fixed steel, both in its ascent and descent.

A machine made upon this principle, and driven by the power of a horse, would probably be found in practice the best kind of a machine where either straw or corn-stalks are cut in the large way; motion may be given to it by a horse moving upon the *Portable Horse Mill, described in a former communication.*

As there is but a single cutter here, and that cutter rubbing against the steel, both in its ascent and descent, it is kept sharp a considerable length of time, and should it require grinding, this can be done by almost any one without difficulty as the sides and edge are straight.

If any practical agriculturist who would think the cutting and steaming of his straw and corn-stalks previous to giving the same to his cattle an advantage, and should erect a machine upon this principle for cutting them, I should be pleased to see a communication from him in a future number of the Cabinet, both in regard to the cost and utility of the machine and the relative value of a given quantity of straw and corn-stalks compared with the same amount when eaten without cutting or steaming them; and the best process of steaming and the proper temperature for the food.

17*th July*, 1837.

For the Farmer's Cabinet.

Preservation of Timber.

Since the inquiry appeared in the 24th number of the *Cabinet* relative to the proper time to cut timber and the best means to preserve it from premature decay, &c., the subject has undergone considerable discussion in presence of the writer of this, and the general opinion appears to settle upon the month of August, within one day of the time when the moon is full, as the best time to cut all kinds of oak; and that the best and cheapest mode of guarding it from decay, is to im-

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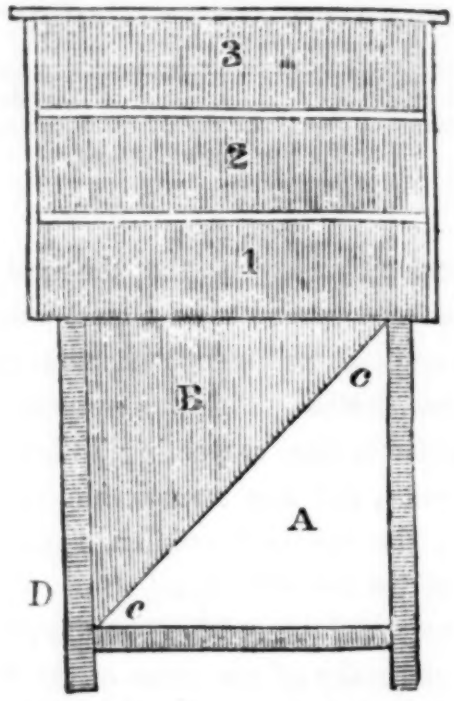

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merse the wood, immediately after it is cut, in lime and water—to remain immersed a sufficient length of time for the small particles of lime to penetrate into the wood; one year is considered sufficient for this purpose; the timber is split or otherwise reduced nearly to the dimensions to suit the purpose for which it is required, so as to permit the lime to penetrate the pores in the best manner, in the least space of time. One gentleman states that he considers oak posts for fences treated in this manner equal to ordinary locust without any preparation. A vat made water tight, with plank sunk in the ground, of sufficient dimensions to contain the required quantity of timber, with a small space between the different courses and the sides of the vat, sufficient to allow the water and lime to be agitated occasionally, is all the preparation required. The timber is placed in the vat and covered with water and lime, mixed to the consistence of common whitewash, and this agitated occasionally during one year; the timber is then removed and when sufficiently dry is fit for use.*

* Perhaps the lime may act chemically in neutralizing the acid of the sap, as well as mechanically in filling the interstices between the fibres of wood; if so the above process may possibly not be so useful when applied to some other kinds of wood; there are several other substances which are naturally brought to the mind when investigating this subject, particularly those of a resinous nature; also, salt, and charcoal, either of these might be brought into contact with the interior part of the wood by a strong hydrostatic or hydraulic pressure where expedition in the process may be important.

From the Cultivator.

Sheep Barn---Ruta Baga.

Fig. 2.

Dear Sir,—As you are engaged in agriculture, and no doubt take an interest in all improvements, I enclose you a sketch of a barn, (fig. 2,) which I built last season for the accommodation of sheep—141 by 40 feet, with a basement, three sides of which are built of stone laid in mortar, 6 1-2 feet high in the rear and 7 1-2 in front, with a cellar 40 by 16, which will hold about 2,500 bushel roots, which are dropped into it through a trap door from the outer floor. The barn will hold from 80 to 100 tons of hay, besides grain, straw, &c. The basement will conveniently hold 700 sheep, where they are fed with hay, ruta baga, and watered. In cold weather, we close the doors and windows,* and throw them open in mild weather, and it is sufficiently warm in March and April, for young lambs. We shear on the centre floor, and have a wool room plastered on the right. Our flock consists of about 1,000 of the finest Saxony sheep, and we have long found it difficult to keep these fine and tender sheep sufficiently warm, and particularly to guard young lambs against the vicissitudes of the weather, even in April.

We think ruta baga are decidedly preferable to any other roots, and raised about three thousand bushels last season. They are as valuable for cattle as for sheep.

The enormous high prices which are demanded for oxen and cows, as well as for butter and cheese, admonish us that the people of this country have run too much into sheep, to the neglect of cattle; which the good sense of the farmers will soon rectify. We have an earnest of this from the number of calves which we see in the pasture of almost every farmer.

I am very respectfully yours, &c.,

E. Tilden.

New-Lebanon, May 26, 1837.

* We doubt the propriety of closing the doors and windows at any time, except during a driving snow storm. No animal is more sensitive to foul air than the sheep; and 700 of these animals will soon vitiate the air of the basement story. We think it would be an improvement to have doors or ventilators, on the ends and rear, as well as in front.

If we were to prescribe rules in regard to the management of sheep, they would be something like the following:—1. Give them pure air; 2. Feed them well: 3. Keep them dry: 4. Give them salt often; and 5. graze them in hilly, stony pastures.—Cond.

Lime Stone,

Ground, *but not* burned, *for agricultural purposes.*

The following paper, on the use of *Lime-stone, ground* instead of *burned*, for agricultural purposes, was read before the Lyceum of Natural History of New York, by William Partridge, Esq.

The facts therein set forth, are highly important, and are worthy of being tested by

those who have lime-stone on their farms.—We ask for this subject, the attention of our readers; and of those who have heretofore tested, or may hereafter test, the theory by experiment, to furnish us a statement of the result for publication. We shall also be much obliged to Mr. Partridge for a continuation of his favors.

To the President of the Lyceum of Natural History.

Sir,—In a conversation I had with you on board a steamboat on the North river, sometime during the summer of 1835, relative to lime, as applied agriculturally, I mentioned the advantage of using it generally in a ground state, as plaster is now used, instead of burning it. You informed me, subsequently that your farmer had applied some on your land in a state of powder, and found it decidedly beneficial. I then promised to send you my written opinion on the subject, and now beg leave to filfil that promise, with an apology for delaying it so many months.

It is well known, to every intelligent agriculturist, that soils covering lime-stone rocks are the most productive of any on the globe. I know of but one exception, when the lime-stone is too highly charged with magnesian earth. Our country affords many facts in proof of this assertion. I shall refer to two locations as all sufficient for my purpose.—The state of Kentucky has a bed of lime-stone running underneath its whole surface, and its natural soil has been produced, and is still producing by the abrasion of these rocks. The superior productive powers of the soil of the State is well known to every intelligent farmer in our extensive country, and is spoken of in terms of admiration by the Europeans. That part of Pennsylvania extending from the Lehigh Water Gap to Easton, is a lime-stone country, and affords another instance of its highly productive powers.

In England, the soil deposited in valleys at the foot of lime-stone hills, is equally productive. The valley running from the city of Bristol, to the city of Worcester, is of this description, and there is no soil more productive in Great Britain. There are more than twenty spurs of hills bounding that valley, each containing large bodies of lime-stone rock, and the springs flowing from them, are so charged with lime-stone, as to incrust every thing lying in them. When the springs issue from the rocks high up the hills, they are much used for irrigating the higher lands, and the beneficial effects are visible to every observer.

Lime, in the state of Chalk, is also used very generally on land near to the Chalk Mountains in England.

The lower part of this State abounds in primitive lime-stone, and the preceding observations were made with a view to apply the facts to rectify a material error committed, as I conceive, by the farmers in using it on their land. They burn the lime-stone at considerable expense, and in that state use it for agricultural purposes. I would suggest, as a far better general application, that the lime-stone be merely ground, and n that state applied to the land. As this may be a new mode of application, I shall endeavor to show wherein it is preferable to the present.

I have been frequently informed by farmers who use burnt lime on their land, that they keep it some months before using, and that then the good effects are not observable the first year. We have only to ascertain what these facts prove, and the whole mystery will be instantly solved. In burning lime-stone two materials essential to agricultural productiveness are driven off, its water and its carbonic gas. In its natural state it is a carbonated hydrate, when burnt it is caustic lime (oxide of calcium) made so by the heat driving off its water and carbonic gas. Why does the farmer delay putting it on his land, but for the simple reason that it is too caustic for vegetation. Why does it require to lie in the soil one year before producing any visible fertilizing effect! It is for nothing more than to give it time to return again to a state of carbonated hydrate, the same condition it was in before burning.

I have said that lime-stone merely ground is the best general mode of applying it to agricultural purposes, there are some exceptions to this rule. When a soil contains "hard roots, dry fibres, or other inert vegetable matter, a strong decomposing action will take place between burnt lime, and the vegetable matter, rendering that which was before comparatively inert, nutritive." Where this is the case, it would be well for the farmer to use one-third burnt lime, and two-thirds of ground lime-stone, or any other proportion he may find most efficacious. For stiff heavy soils use the lime-stone coarsely powdered, for in this state, after being well ploughed and harrowed, so as to mix thoroughly with the soil, it would so lighten it, as to enable the sun and air to penetrate to the roots of its vegetation, thereby rendering the future crops more productive. For lighter soils it cannot be ground too fine. Our primitive lime-stone rocks are peculiarly well calculated for this purpose, as the particles are held together by a loose aggregation, and therefore easily reduced to small pieces, or to a fine powder, at the option of the operator.

The question was asked by a writer in a late New York Farmer, "if it be possible that ground lime-stone can answer the purpose of plaster of Paris." I should say that

it can, and it may be, eventually, a better purpose. The fertilizing property of plaster depends mainly, if not altogether on its hydratic property, that is, on its power to attract moisture during the night, and imparting it gradually to the plants during the day. The carbonate of lime possesses the same property in a considerable degree. I have never heard of these two lime-stones being analized, for the purpose of developing their comparative powers of absorbing moisture from the atmosphere, and their facilities of giving out their moisture at atmospheric temperatures. To have this accurately performed, would be a desideratum with agriculturists.

We know that soils formed by the abrasion of lime-stone rocks are of the most fruitful description; we see its productive powers when land is irrigated with water holding lime-stone in solution, and with equal effect in the state of chalk. Science has developed the properties on which this productiveness depend, and if our farmers would suit their appliances scientifically, we should not now be receiving a supply of agricultural products from Europe.

William Partridge.

Corn Bread.

The south has long been celebrated for its grateful corn bread, cakes, muffins and hominy. In consequence of an invitation in the Cultivator, a young lady in Tennessee, has kindly sent us the following directions for making these domestic delicacies of the table, for which we respectfully tender her our acknowledgments.—*Cultivator.*

PLAIN CORN BREAD.

Six pints meal, one table-spoonful salt, four pints water; thoroughly mixed with the hand, and baked in oblong rolls about two inches thick. Use as much dough for each roll as can be conveniently shaped in the hand.—Many persons use hot water; in winter it is certainly best. The bread is better to be made half an hour or more before it is baked. The oven must be tolerably hot when the dough is put in. All kinds of corn bread require a hotter oven and to be baked quicker than flour.

LIGHT CORN BREAD.

Stir four pints meal into three pints tepid water; add one large tea-spoonful salt; let it rise five or six hours; then stir up with the hand and bake in a brisk oven. Another method is to make mush, and before it grows cold, stir in half a pint of meal. Let it rise and bake as the first.

CORN CAKES.

Six eggs well beaten, one pint milk, one tea-spoonful salt, two pints mush almost cold, two pints meal, and three table-spoonsful melted lard. Grease the oven and put one *large* spoonful of batter in each cake. Do not let them touch in baking.

CORN MUFFINS.

Made in the same way as corn cakes; grease the muffin hoops and heat the oven slightly, before putting in either corn cakes or muffins. A better muffin is made by substituting two pints flour instead of meal.

BEST BATTER CAKES, OR MUSH CAKES.

Beat the yolks of eggs very light, add one pint milk, too pints mush almost cold, 1 1-2 pint flour, one tea-spoonful salt, three table-spoonsful melted butter. To be well beaten together. Just before frying them, whip the whites to a strong froth, and stir it lightly into the batter. For frying all kinds of batter cakes, use no more lard than is necessary to make them turn well.

MUSH.

Put two pints of water into a pot to boil; then take one pint cold water and mix smoothly into it one pint meal. When the water in the pot boils stir this well into it, and let it boil ten or fifteen minutes, or until it looks clear

COMMON BATTER CAKES,

Six eggs well beaten, 2 1-2 pints milk, one tea-spoonful salt, stir in three pints meal that has been thrice sifted through a common sifter. Keep the batter well stirred while frying, otherwise the meal will settle at the bottom.

BEATING HOMMINY.

Soak the homminy corn ten minutes in boiling water; then take the corn up and put it into the homminy mortar, and beat it until the husks are all separated from the corn. Once or twice while beating it, take it out of the mortar and fan it; that is, throw up on a tray or bowl so as to allow the husks to fly off. When sufficiently beaten, fan it until all the husks are out.

PREPARING HOMMINY FOR THE TABLE.

It must be thoroughly washed in cold water, rubbing it well with the hands; then washed in the same way in warm water, changing the water several times. Put it into a large pot of cold water, and boil steadily eight or ten hours, keeping it closely covered. Add hot water frequently while boiling, otherwise the homminy will burn and be dark colored. When homminy beans are used, one pint to a gallon of homminy, to be put in when the homminy is put on. If it is put on the first thing in the morning, and kept briskly boiling, it will be ready for din-

ner at two o'clock. Season with butter and send it to the table hot.

But the usual mode is to boil homminy twice a week, and put it into a wooden or stone vessel, and set it in a cool place to prevent its becoming musty. When wanted for use, take the quantity necessary for breakfast or dinner, and having put a small quantity of lard into an oven, let it become hot; put in the homminy and mash it well, adding some salt; when well heated it is ready for the table. Some persons allow it to bake at the bottom, and turn the crust over the homminy when put on the dish. Be careful to have no smoke under the pot while boiling, or when frying it for the table. Few things require more care or nicety in their preparation than homminy.

(These pints were all measured with the common tin cup.)

For the Farmer's Cabinet.

REPLY TO SUBSCRIBER.

I am happy to find that Subscriber is so well pleased with his *cloak*—that it fits him so completely—and with all, that he is so sensible that he stands in need of its covering. As he finds its protection necessary to the preservation of his comfort, I will not be so cruel as to attempt to wrest it from him. I can heartily respond to his kind feelings and "thank him very much for his simile of the *north wind*,—I never should have thought of so apt a likeness."—*Strong and penetrating* as the *truth* always is, to him it may have seemed "loud," from the manner in which it *penetrated* and forced conviction on his mind. It might have seemed "rough" from the manner in which it lifted the skirts of his *cloak* and exposed "the folly of (his) pretending to a knowledge of the absence of things."—Hence he was led to compare it to a *storm of wind*. The term "empty," however, seems quite inconsistent with the other attributes which he has gven it and must have been misapplied.

Subscriber seems a little discomposed at my saying that it was "animal matter, not the bone which he found rotten"—and places his *dictum* upon it. "I examined the piths or bones and *knew them to be rotten*, or I should not have made the statement." This is too great an assumption of infallibility for him to make after having complained so much of my "positive manner." There could have been no deception in appearances—no error in judgment—no oversight of accompanying circumstances—his penetrating eye and comprehensive judgment must have been infallibly correct. "He knew them to be rotten." Appearances no doubt satisfied him that they were rotten—he believed them to be rotten and as a matter of fact asserted that "he knew them to be rotten." All this does not prove that they were *bona fide* rotten. The same appearances might not have satisfied me that they were so. It is often a nice and delicate observation in *pathology* to determine such a question. I will avail myself of his suggestion to introduce "a more agreeable manner of investigation." Instead of denying his assertion I will only say that I *doubt* its truth. I *doubt* the minuteness and accuracy of his observations being equal to the difficulty of determining the fact.

I may perhaps be excused for informing Subscriber what he probably does not know—that *bones rot more readily and rapidly*—in the sense in which he uses the term—*in living than in dead animals*. Bony caries or rotting is an ulceration of living bones produced by the action of the absorbent vessels which take up and carry off the bony matter. It is completely a vital action—a process which does not belong to dead matter. After death the *membranous and vascular* materials in the bone first becomes decomposed or rotten. By long exposure to the agents of decomposition the *gelatine*, which is much more intimately associated with the earthy matter of the bones, is gradually destroyed. But the *phosphate of lime* or calcareous base of the bone remains with little or no alteration either of substance or form for a long period. In very spongy bones, this earthy substance may be left so loose and cellular after the more obvious animal matter is removed, as to be readily crushed or crumbled by external violence. For the same cause it may be so infiltrated with the decomposed elements of the soft parts as to appear black or to emit an offensive odor. Subscriber has, no doubt, seen *this* condition of the pith of horns, but it affords no evidence that they were "rotten"—so far from it, that a little exposure to the bleaching influence of sun and rain would probably have restored them to a *white, sound state*.

Had Subscriber been really sincere in his aversion to a "war of words," I *doubt* whether his last essay would ever have been written.

At p. 241, he says, "Observer challenges those who oppose him to produce the horn. I ask him to look at the horn he has described * * * here is an admission of all that is necessary * * * the horn is hollow in the sense in which we understand the question." But at p. 372, he strongly enough accredits himself with the discovery of the horn and in a sort of mock triumph says, "*as I have given Observer information that has enabled him to find a hollow horn for himself*, I feel pretty much out of danger from his challenge, and hope that he will not expect me to continue the discussion on the mere existence or non-existence of the hollow horn."

Having thus *slipped the noose* and ran clear off the field of controversy, he very properly asks exemption from further danger and from a continuance of the discussion. He is entitled to both. Yet what means the shout of victory which I hear in the distance?—"the fact is *now* admitted that hollow horn exists—that the bony part of the pith wastes away by a disease to which all horns are liable."

So far from being *now* admitted, it has never been denied. The question, therefore, rests on precisely the same ground *where I had placed it* before Subscriber drew his pen in its support.

New-Garden, 7 *mo.* 15*th* 1837.

For the Farmer's Cabinet.

New Churn.

Mr. Editor,—The following is a description of a Churn which I lately saw in use in Columbiana county, Ohio. It consisted of a box about 30 inches long, 12 inches wide, and 12 inches high, with *rockers* placed under it, lengthwise. On the inside there was a rack, to stand upright, with a gutter cut in each side of the churn, and said rack is put in in the form of a slide. The cream is then placed in the box and the operation performed hy *rocking*, which produces butter in a very short time, and is performed with much less labor than any other way where the operation has to be performed by manual labor,—The amount of cost in making is a mere trifle, and those wishing to try the experiment, can do it with very little trouble. J. K

Beaver co,, 7 *mo.* 15*th*, 1037.

Harnessing Horses.

Under this head comes the question of the best direction of the traces, or, as it has generally, but less clearly been called, the angle of inclination of the line of traction. This question appears to have been always considered one of great importance; the point has been frequently discussed, and various opinions have been advanced; some having recommended it to be horizontal, others inclined; and, as they have each in their turn, in demonstrating the correctness of their own theory, proved the error of others, there can be no presumption in laying them all aside, and in taking a different and at the same time, a more simple and practical view of the case. By referring to a figure, we see that if AD represent that portion of his whole weight which is relieved from his fore-legs and AE the direction of the traces, then AF is the measure of the horizontal pull upon the carriage. Now, AF bears a constant proportion to A B, which represents the strain upon the legs; and AD being constant, AB, and consequently, AF increase or diminish according to the angle ADB is increased or diminished: that is to say, the horizontal pull applied to the carriage is proportionate to the strain upon the legs; but they are both dependent upon the angle formed by the traces, increasing or dimminishing as the latter are inclined downwards or upwards from the collar; so that whether the traces be inclined upwards, as Fig. 3, or downwards, as

Fig. 3.

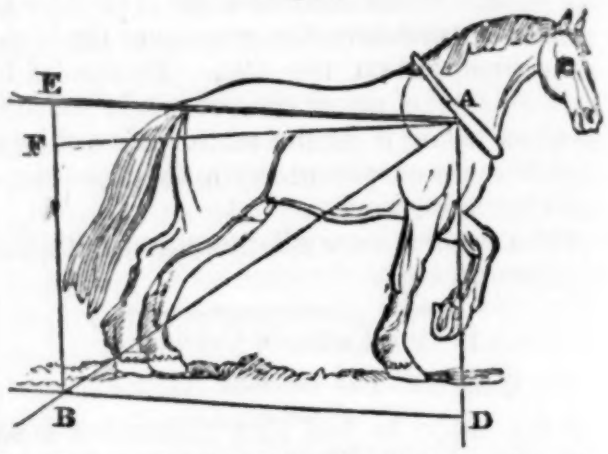
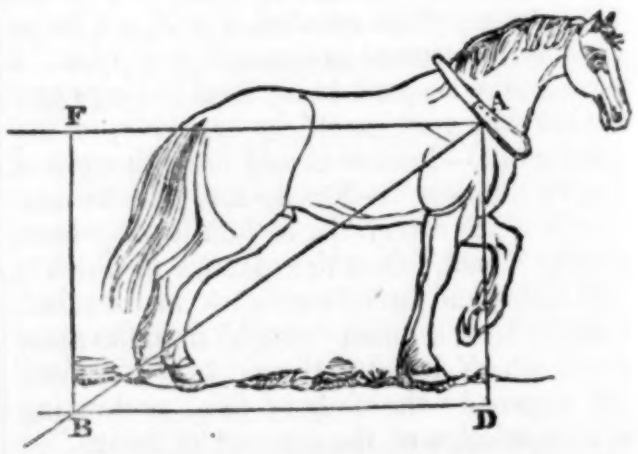


fig. 5, or whether they be horizontal, as fig. 4, makes no difference in the manner of pull-

Fig. 4.



ing. In the first case, a portion of the animal's weight is borne by the traces, and is transferred by them to the carriage. AF is here small, but the strain upon the legs AB, is also proportionably less than in the second case, where the traces are horizontal. In

Eig. 5.

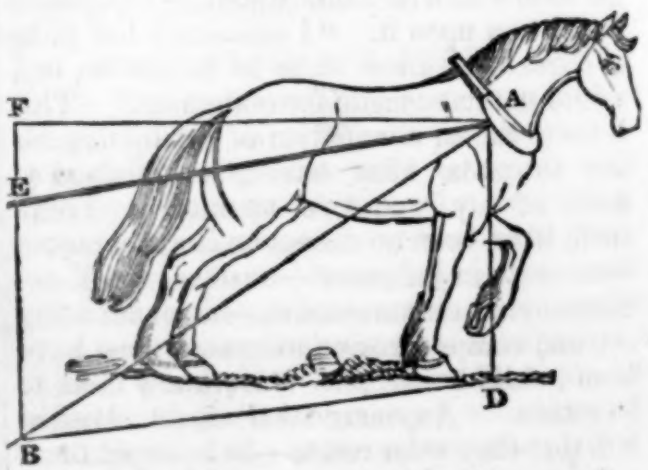


fig. 5, where the traces incline downwards,

we see that the horizontal force AE is much more considerable; but, at the same time, AB is increased, and consequently the muscular exertion required in the legs is proportionably great: in fact, here a portion of the weight of the load is transferred to his shoulders.

The comparative advantages, therefore, of the three, do not follow any general rule, but depend simply upon the peculiar qualities of the particular animal employed, and his relative capabilities of lifting and pulling, or the proportion existing between the weight of his body and his muscular strength. To render this more clear to our own feelings, we will put the case of a man. An able bodied man is more adapted for lifting than pulling; consequently, in his case it would be advantageous to throw a certain portion of the weight upon him, by making him pull upwards, as in fig. 6, or what we are more

Fig. 6.

accustomed to see, and which amounts to the same thing, applying his strength to a wheelbarrow, fig. 7, and we have frequently

Fig 7.

seen an ordinary man wheel 800 lbs. in this manner.

If however, we take a person unaccustomed to hard work, and consequently not so strong in the legs, although he may be unable even to lift the wheelbarrow which the other moved with ease, still he may, by pushing horizontally, put in motion a considerable load; and lastly, in the case of an invalid who can barely carry his own weight, if he lean on the back of a garden chair, he will not only walk himself, but push on the chair; or a child who is yet too weak to stand, can, if part of his weight be supported in a go-cart, not only move himself, but also the frame which supports him. These are very familiar and homely comparisons, but they are cases exactly similar to the three positions of the traces; and the argument will equally apply to horses as to men. It is true, we rarely use for draught a horse that cannot stand; but the case is very possible that a large heavy horse, otherwise not strong, or one which it was not desirable to fatigue, might pull better and longer, if part of the weight was borne upon the carriage, or if, in other words, the traces pulled upwards. And we know by experience, that in the case of stage-coaches, where, owing to the speed, the weight of the horse's body is already generally a burden to him, it is disadvantageous to increase that weight by inclining the traces much downwards; on the contrary, where we wish to obtain the utmost effect of a powerful horse, or of a horse that is muscular, but without much weight forward, it is highly advantageous to augment the effect of his gravity by inclining the traces even as much as 15°, or about I upon 3: the strain upon the traces will be then considerably increased, and the effect augmented, provided always that he is able to exert the necessary strength in his legs. As far, therefore, as the mere force of traction is concerned, there is no particular angle which will always produce the greatest effect—but it must depend upon the particular capability of the horse; and this in its turn varies, and is affected by circumstances; for the same horse that upon a level road requires no addition to his weight, might be materially assisted by a slight addition when ascending a hill, if not continued too long; and most horses would be benefited considerably by the opposite arrangement in a descent, that is, by a portion of their weight being borne up; they should at least have no additional load thrown on them while descending a hill.

Mulberry Trees.

There are in the vicinity of Burlington, New Jersey, about three hundred and twenty thousand mulberry trees under cultivation. The Messrs. Cheeney have about 200,000; Hon. Garrett D. Wall, in connection with Mr. Chauncey Stone, about 40,000; Samuel Gummere and Caleb R. Smith, 40,000; and Israel Kingsman 40,000. In order to favor the production of silk, these gentlemen are preparing cocooneries, intending to commence feeding worms the present season.

Laying out of Farm Lands.

A variety of considerations present themselves in the arrangement of farm lands. No instructions, applicable to every case, can be given. The best mode of dividing or laying out a farm, will depend upon the nature and situation of the land, its water, its proximity to roads, the kind of fences about to be adopted, and especially the objects to which the grounds are to be appropriated. As a general rule, admitting indeed of but few exceptions, fields of a large size will be found more advantageous than small ones. The larger the divisions of a farm, the less fencing is required. This is a point not likely to be overlooked by those who have had some experience of the perplexities and oppressive cost of keeping up the necessary enclosures upon their farms. A few small fields, particularly on grazing farms, are convenient, and in the winter, will be profitable, if enclosed by hedges, on account of the shelter which they afford to the pastures. Beyond this, but little can be said in their favor. Large fields are more easily supplied with water than small ones, and where they are regularly laid out, and of proper size, "five ploughs may do as much work as six ploughs in fields of a small size and of an irregular shape; while every other branch of labor (such as dunging, sowing, harrowing, reaping, and carrying in the harvest,) can be executed, though not altogether, yet nearly in the same proportion." It is to be observed, however, that the size of the fields must, in a great measure, depend on the extent of the farm, the character of the soil, and the object to which it is to be appropriated. Where the soil differs materially, it will often be advisable to separate the light from the heavy, the wet from the dry. As a general rule, a farm should be divided with a reference to the course of crops to be pursued in it; "that is to say, a farm with a rotation of six crops should have six fields, or twelve, according to circumstances." Again, the size of the fields must in some degree depend upon the flat or hilly shape of the ground, for even on dry land, if there be a rise on the ground, twenty chains is sufficient length: If the ridge be longer, the horses, in ploughing, are apt to become fatigued. Where the system alternates with grazing and tillage, fields of from fifteen to twenty-five acres will perhaps be found to combine more advantages than those of any other dimensions. They should be either square or oblong. There is great advantage in having the fences of fields in straight lines, and when the fields are large, the square form should have preference: If they be small, the oblong shape has superior advantages. On a large farm, in a bleak situation, and on which it is proper to keep a numerous stock, it may often be found requisite to subdivide the arable divisions, not only for the sake of shelter, while the lands, lie in a state of herbage, but for the convenience of separating and shifting the stock. Hence it is incumbent on the planner of a farm, to weigh well the various circumstances that belong to it, as on these only the true size and number of arable fields can be calculated. Even the shape of an arable field is not a matter of choice. It ought to be regulated by the shape of the farm, and by the roads and water courses running through it, as well as by the nature of its lands, the form of its surface, and its aspect or exposure. A perfect square or a long square, is a desirable shape, when circumstances will admit of it. Crooked lines and irregular fences are inconvenient in the operations of tillage, and should of course be avoided. Two sides at least ought to run parallel to each other: and it is equally, or more desirable, that each field should have a uniformity of soil and subsoil, as on these depend the uses to which it is applicable; and it is at once unpleasant and unprofitable to have different parts of the same field under separate courses of management. Yet where the natural line of division is very irregular, it is improper to follow implicitly all its windings. The planner ought rather to draw a judicious line between the two, and the cultivator to alter the qualities of the lands, which happen to be unnaturally severed, by draining, manuring, and other necessary means.

The direction of the fields should be the same as that in which the land ought to be ploughed for a crop, provided it be compatible with the given lines of the farm. On a level surface, or on one which is gently inclining, the direction of the beds of retentive lands that require to be laid up in round ridges ought to be nearly north and south; in order that the crops on either side of them, may receive equal sun, and ripen evenly: consequently, in this case, the fences which form the two longer sides of the quadrangle should take that direction. But where the surface is steep, this principle of direction must give way to another of greater utility. If the land is retentive, and the soil requires to be laid up into rough beds, across the slope, the direction of the ridges must be guided by the face of the slope; and the fences, on the general principle, ought to take the same direction; observing, in this case, when circumstances will permit, to let the fences wind to the right of a person standing on the brink of the slope, and facing towards it: as the beds ought to take that direction for the greater ease in ploughing them. And when the face of a hill is steep, and the land absorbent, the soil requires to be turned down-

wards of the slope; and the fences to be directed by the natural lines of the hill as much as possible. In laying out cow grounds, or other perrennial pasture grounds, regard should be particularly had to water; and wherever good water is naturally found, or can be conveniently brought by art, to that point, a pasture ground ought to tend, in order to enjoy the necessary supply as much as possible."

When the soil and situation of the land will permit, the arable grounds should be laid out nearest the farm house, and the pasture grounds most remote from it. This will save much cartage in removing the grain to the barn, and carrying out the manure to the fields. The laborers, moreover, will be more immediately under the supervision of their employer.

From the Farmer and Gardener.

Saw Dust for Packing Plants.

I have noticed in the agricultural papers, some accounts of the loss of a large number of Morus Multicaulis imported from France during the past spring, occasioned by neglect or inefficiency in packing. I presume the material commonly used for preserving the vitality of plants is moss. The kind denominated *Sphagnum* is the best for that purpose, as it retains moisture for a length of time, and is not liable to fermentation.

The moss, however, besides that it is not always readily accessible, is, I believe inferior to saw-dust in both the qualities adverted to. When mixed with earth in equal proportions, and with a proper allowance of water, it will be many months before it can become dry, when securely closed in a box. By the way, boxes should be used in preference to mats—in all cases at least in which plants are impatient of removal; or when they are to be transmitted to a considerable distance.

Some years ago I received a box of plants from the south, which were put up in the fall and sent to Charleston to await the sailing of a packet. It lay there for months, and did not reach me until quite late in the spring; but on opening it, I found the contents in a fine *growing* condition.

About the first of this year I put up two boxes in the same manner—one to be sent to Boston, the other to Columbus, in Ohio. On the 23d of May, the former was opened, and the plants were in a state of perfect preservation; having lain undisturbed for nearly five months. In the other case, though the box was small, and almost as late in reaching its destination, yet the plants were in a condition equally good.

I have reason to believe that many of the losses sustained in the removal of trees and plants to a distance—and they are not few—are to be ascribed to the imperfect manner in which the packages are made up. An accidental delay, or unexpected change of weather, may materially retard the operation of planting: and if such occurrences are not guarded against by the care of the nurseryman, disappointment must frequently be the lot of his customers.

A HORTICULTURIST.

The Turnep Fly.

The Editor of the Farmer and Gardener, E. P. ROBERTS, Esq. states that he lately saw a patch of Ruta-baga, on the farm of Mr. JOHN BARNEY, near this city, which had been rescued from the ravages of the fly by the use of fish oil. He says Mr. B's mode of applying it was as follows:—"The oil being placed in a vessel, he dipped a rag into it and sprinkled it over the plants. He had previously tried sifting lime over them without effect, as was evinced by the many rents in the first leaves; the aroma of the oil being repulsive to the delicate sense of smell of these little mischief doers, they instinctively leave the plants as the oil is cast upon them. Another good is effected by the use of it—it acts as a powerful manure, and pushes the plant rapidly into the rough leaf state, when it is beyond the reach of harm from this insect. It is the opinion of Mr. Barney, that a gallon of oil, judiciously used, will go over an acre of turneps; but should it take four, the expense should be no object with any one desirous of securing a crop of turneps; for if it will drive off the fly, there can be no question that it will also expel *grass-hoppers*, which, of late years, have proved equally as destructive to the turnep plant as the fly itself."

We have seen it often stated that by boring a tree, inserting a portion of quicksilver or sulphur in the hole, and plugging it up again, that it would exempt it from the caterpillar and other insects. While in Philadelphia lately, we were shown an Elm tree, on which the experiment had been doubly tried, —that is, two holes had been bored in it. In the one, quicksilver had been placed, and in the other flour of sulphur, and when we saw the tree a week ago, not a single living leaf was on it —its insidious foe had been as rife with his mischief as ever.—*Gar. and Far.*

Why do you desire riches and grandeur? Because you think they will bring happiness with them. The very thing you want is now in your power—you have only to study *contentment.*

Stimulating Manures.

Most of our farmers are somewhat averse to trying new experiments in the art of cultivation, and yet of all new arts which are practised by man, there is none in which there is more need of them. Those experiments which require great expense at the outset should be instituted by societies, or by those who have both money and time to devote to them. Many very important experiments may be tried by the man of very moderate meanss, for they may cost but little else than the time consumed in performing them. One subject which we would name is stimulating manures, though perhaps the word nutritive would be better than stimulating. After the plant or crop is up, what is the best application to cause it to thrive? Liquids in which manure has been soaked are often used for particular purposes. We recollect that an old friend of ours once amused himself by pampering a squash vine, which he pushed forward to an immense length, by watering it every day with a liquid which he drained from his pigstye. He applied it not only to the main roots, but also to the little radicals which put out at intervals along the vine. No doubt there are many articles, cheap at cost, which may be used to great advantage.

We quote the following use of the *chloride of lime* from a French work. Mr. Dubuc, a French apothecary, has discovered that muriate of lime (chloride of lime dissolved) is a very active manure, or vegetable stimulant. He dissolves about two and a quarter pounds of the dry chloride, in about sixteen gallons of water, and with this solution waters the plants at distant intervals. He sprinkled a light soil with this fluid, and eight or ten days after, planted it with maize, and from time to time during the season watered the corn with the some solution. Another portion of corn at 6 feet distant, he watered with common water. The former yielded double the produce of the latter.—A large variety of plants and garden vegetables were tried in the same manner and with similar results.

The sunflower, (helianthus)which at that place rises only six or eight feet, grew by this treatment to the height of twelve or fourteen feet, with flowers whose discs were eighteen or twenty inches in diameter, producing seeds which yielded half their weight in oil, good to eat, and exuding from its centre a transparent vein like turpentine, very odorous and drying easily in the air. Potatoes were also tried. They were planted on the 1st of May, 1832, in two squares, six feet asunder; the one was watered with the solution, and the other with water from the cistern. They were gatherd on the 10th of November.

The bed which had been watered with the solution, and only three times during the season, produced potatoes six inches long, twelve in circumference, and weighing nearly two pounds each. The others were in general only half as large, and their stalks in the same proportion. Three or four waterings with the fluid at distant periods are considered sufficient. Some ascribe its action to electrical agency.

Allowing one half the above statement for the natural enthusiasm of the French, when any thing new occurs among them—the solution must be a valuable stimulus for some plants. The chloride of lime can be had at the paper mills, or at the apothecary's, for a few cents per pound, and the experiment may be tried, and if good effects described above, are corroborated, it certainly will be a valuable auxiliary.—If it proves to be of no worth, still the experiment will be valuable as refuting the above statement, and proving that the results obtained by Mr. Dubuc must be attributed to something else.—*Maine Farmer.*

Massachusetts Agricultural Society.

The Trustees of the Massachusetts Agricultural Society, believing that the interest of Agriculture will be more promoted by awarding liberal premiums, than in expending their resources in a cattle show, have decided to postpone the latter this fall, and therefore offer a large amount in liberal premiums, some of which we will mention. They offer for the best cultivated farm in the state, not less than 70 acres, exclusive of wood land, $150; for the second best $100. For the best rotation of crops on the same land, not less than two acres, for three or four years, commencing when it is in grass, $75. For the best way of improving and enriching poor and exhausted soil, without manure, by ploughing in green crops, $75. For the compost of stable manure with muck, mud, &c., which shall approach nearest to clear stable manure, in strength and efficacy in producing crops, $50. To a person, persons or incorporation, who shall raise the greatest quantity of sugar beets, by the acre, which shall be manufactured into sugar in the years 1837, '38, and '39; or to a person, persons, or corporation, who shall manufacture from the sugar beet, sugar in the greatest quantity and best quality in the same years, particulars of culture and manufacture being furnished—for each, $100. For an effectual and satisfactory mode of extirpating the worm that attacks the locust tree, $100; for extirpating the borer of the apple tree, $50. For a particular

account of the best experiment of turning in a grass crop as a manure, $50. For the best plantation of white oak trees, not less than one acre, nor fewer than one thousand trees per acre, raised from the acorn, and three years old on the first of September next, $50. For the best quality and greatest quantity of hemp on an acre, $40. For the greatest yield of carrots to an acre, $30; for mangel wurtzel, $30; for beets, $20. And numerous smaller premiums, besides a premium of $20 for the best newly invented agricultural implement, &c. &c. The total of premiums amounts to $1,550.

Thus the enlightened agriculturists of Massachusetts are endeavoring to excite their fellow farmers to improvement in the agricultural art. And as many of their premiums are calculated to lead the emulous to experiment in new branches, we doubt not that a favorable influence will be felt throughout the state, and the products of the earth be increased. We should be glad to see a similar course taken in this state.—*Poughkeepsie Telegraph.*

Fruit Ladders.

Fruit trees are often much bruised, and greatly injured in consequence, by using ladders which rest against the branches while gathering the fruit. Very simple ladders may be made, which support themselves, and by which the fruit may be gathered with great facility, even from the ends of the longest and most spreading branches, without the slightest danger of injury to the tree. The following is one of the simplest. There are two upright slender posts, (which may be from six to twelve feet long,) inclining to within a few inches of each other at the top, and spreading from three to five feet, (according to the height,) at bottom. The rounds of the ladder connect these posts together, and the lower ones are made somewhat larger in the middle than at the ends, in order to give them greater strength. A third post is attached to the upper part of the latter simply by the upper round of the ladder passing through a hole in its under end; thus permitting it to turn freely, so that its lower end may be placed at a proper distance from the other posts to enable it to stand firmly. It may then be placed under any part of the tree.

Generally, however, where the required height is more than ten feet, it is best to make the ladder with the first two posts placed parallel to each other about eighteen inches apart, and then to connect, by suitable hinges or joints, *two* additional posts to the upper end of the ladder, so that they may at the same time be spread out from each other and form the foot of the ladder, thus forming a sort of tripod or three-legged stand. In this way, one may be made lighter and more portable than by the former method.—*Gen. Farmer.*

Topless Potatoes.

We were, the other day, shown a curious specimen of new potatoes, that were grown without any top, or leaves. About five weeks ago, Mr. J. H. Hill, of Waterville, planted some potatoes of the common kind in the usual way. One or two hills did not come up, and he last week dug down to them and found that the potato which he had planted, and which was a whole one, had put out several tubers.

Two of them were as large as a pigeon's egg, each; and there were several smaller ones beginning to show themselves. There was not a sign of any top or leaves to be seen. He found another hill in which the same process was going on.

We do not recollect of having seen an instance of the kind. The growth of the new tubers must have been quite rapid, having grown out and formed to the size above mentioned in five weeks, of not very warm weather. The question suggests itself—how long and how large will they grow without any stalk or leaf to prepare sap for their nourishment? and also, will they continue to grow after the parent potato becomes decayed? and if so, from whence comes the nutriment that gives their increase?

The potato that was planted is sound and hard yet.

Blackberry Cordial.

This syrup is said to be a specific for the summer complaint. From a tea-spoonful to a wine glass, according to the age of the patient, must be given at intervals till relieved.—How to make it:—

To 2 quarts of juice of Blackberrys, add 1 pound of loaf sugar, ½ oz. nutmegs, ½ oz. cinnamon, pulverized, ¼ oz. cloves, ¼ oz. alspice, pulverized. Boil together for a short time, and when cold, add a pint of fourth proof brandy.—*Fredonian.*

The Chintz Bug in Corn.

People seem generally to have very contradictory and inconsistent notions about the nature of trouble. What one would look upon as a very annoying and troublesome matter, another will profess to consider as of "no trouble at all;" and some, by the habitual use of the latter sentence, upon all occasions, are frequently led to make exaggerated applications of it. The following from a South-

ern paper, is an evidence of this. The writer, speaking of the loss of corn by the chintz bug, and suggesting a plan for their destruction, says;—"As soon as these insects leave the wheat, they commence upon the corn, destroying each stalk before they leave it. The husbandman must take them at the onset. In order to prevent them from lodging, let the interstices of the blade and stalk be filled with sand or loose dirt, flatten the earth at the root, by clapping it with the hoe, and then shake the insects off. By this means they will all fall on the hill, where they can be beaten with the hoe, and covered over with dirt, so as to prevent their recovery. The hill must be clapped smooth with the hoe each morning, and left in that way, so as the better to get at the bugs the next morning. This process should be followed up for a few mornings, which will be sufficient to prevent them from getting headway in the field, and will destroy them for the season. The experiment is well worth the little trouble it will occasion."

"Clapping the hills smooth with a hoe each morning," in some of the forty acre fields of corn that we have seen in some parts of Maryland, must be no ordinary task, but one that we suppose, however essential to their welfare, very far from being a matter of "little trouble."

Explanation of Terms.

1. *Broad-Cast Husbandry*—is that in which the grain or seed is sown by a cast of the hand, so as to be strewed equally as possible over the whole ground.

2. *Drill Husbandry*—is that in which the grain or seed is sown in rows, by means of machines contrived for that purpose, and the ground afterwards kept stirred and cleared of weeds by a kind of plough called the horse-hoe, hence sometimes called the *horse-hoeing husbandry.*

3. *Convertible Husbandry*—is when the ground is cultivated alternately in tillage and grass.

This is much practised in some parts of the country with wheat and clover. A field in clover, soon after haying, is turned up and sowed with wheat and clover seed. After the wheat is taken off, it is once mowed, when it is again ploughed up and sowed as before; thus, the ground carries *wheat* every other year, and the intermediate years *clover*. The term applies also to a succession of any kind of crops in which grass is comprehended as one.

4. *Trench Ploughing*—is running the plough twice in the same furrow.

In doing this the top soil, with all its foul seeds, is cast to the bottom of the trench, and a new soil is thrown up on which the sun had never before shed its rays. It is done sometimes at one operation by a plough constructed for the purpose, called a *trench-plough.*

5. *Horizontal Ploughing*—is so conducted, by the use of an instrument, called "rafter level," as to lay the sides of hills in horizontal *beds*, about six feet wide, with deep hollows or water furrows between, for the purpose of retaining the rains.

6. *Indigenous Plants*—are such as are natives of the country in which they are found or grow.

Thus, maize, the potato, and tobacco are called indigenous to America, having first been found here, and from America introduced into Europe.

7. *Exotic Plants*—are such as are natives of foreign countries.

Such as the lemon tree, and many others, when introduced into the New England States and cultivated in hot houses.

8. *Annual Plants*—are such as are of but one year's duration.

Such are most of our garden plants and all others growing from seed sown in the spring, which arrive at maturity in the summer or autumn following, producing flowers and ripe seed, and which afterwards perish both in their *top and root.*

9. *Biennial Plants*—are such as, in their roots at least, are of two years' duration.

Many of these plants perish in their *top* the first year, but live in their *root* through the winter, and the second year shoot up stalks, flower, produce seed, and afterwards perish, both in root and branch. Such are the parsnep, carrot, &c.

10. *Perennial Plants*—are such as are of many years duration.

Such are all plants, whether the leaves and stalks perish annually or not, provided the *roots are of many years duration*, as the horse-radish, burdock, &c.

11. *Herbaceous Plants*—are those whose herb, that is, whose stem and branches are of but one year's duration, whether the root be annual, biennial, or perennial.

12. *Esculent Plants*—are such as are replete with nutritious matter, consequently, proper for being eaten as food.

Such as parsneps, carrots, cabbage, beets, and various others of a similar nature.

13. *Umbelliferous Plants*—are all such as produce their flowers on the ends of numerous little flower stalks or rays, nearly equal in length, spreading from a common point or centre, forming a level, usually convex or globose surface, somewhat like a spread umbrella, as the parsnep, carrot, &c.

14. *Leguminous Plants*—are those of the pulse kind, which, producing their seed in

pods, may be gathered by the hand, as peas, beans, &c.

15. *Culmiferous Plants*—are all such as have smooth pointed stems, and whose seeds are enclosed in chaffy husks or coverings.

All the grains and most of the grasses, as well as many other plants, are of this kind.

16. *Deciduous Plants*—are all such plants, whether of the tree or shrub kind, as shed or lose their leaves, in the autumnal or winter seasons.

17. *Tuberous Roots*—are such as consist of one or more knobbed tubes, of a solid, fleshy substance, as the potato, artichoke, &c.

18. *Bulbous Roots*—are such as have a roundish, swelling, bulbous form, composed of numerous scales or coats, as the onion, garlic, &c.

19. *Tap Roots*—are such as in the form of a tap descend down into the ground in a perpendicular direction, as the carrot, parsnep, red clover, &c.

20. *Fibrous Roots*—are such as are wholly composed of numerous thready or fibrous parts, such as the roots of all kinds of grain.

21. *Radicals, or Radicles*—in botany, are the small fibrous roots, which extend themselves in every direction in the earth for the purpose of collecting nourishment for the support of the plant.

[To be continued.]

August.

Please to attend in season to preserving your sheep from the *æstrus ovis*, or fly which causes worms in their heads. This may be done by keeping the noses of the animals constantly smirched with tar from the middle of August till the latter part of September. In order to accomplish this, it has been recommended to mix a little fine salt with tar, and place it under cover, where the sheep can have access to it, and they will keep their noses sufficiently smirched with tar to prevent the insect from attacking them. Destroy thistles, which some say may be done by letting them grow till in full bloom, and then cutting them with a scythe about an inch above the surface of the ground. The stem being hollow, the rains and dews descend into the heart of the plant, and it soon dies. Select the ripest and most plump seeds from such plants as are most forward and thrifty, and you will improve your breeds of vegetables by means similar to those which have been successful in improving the breeds of neat cattle, sheep, &c. As soon as your harvesting is finished, you will take advantage of this hot and dry weather to search your premises for mines of manure, such as peat, marl, mud, &c., which often gives unsuspected value to swamps. Now is also a good season to work at draining. You may drain certain marshes on your premises, which will afford you better soil than you now cultivate; cause your land to be more healthy, and the earth taken from the ditches will make valuable deposits in your cow-yard and pig-sty.

Drought.

As a country becomes cleared of its timber, it becomes more liable to droughts; and these will be more or less severe according to climate. That which is naturally cool and moist, such as that of Great Britain and Ireland, will seldom, if ever, be affected by too much dry weather; while that in which the summers are hotter, and of course the atmosphere drier, will often suffer much on this account. In most parts of Spain, the fields are parched up by the middle of summer; but before this the crops are all harvested. In this country, droughts are never so severe, nor so universal; yet partial ones are often experienced, much earlier, and long before the crops have come to maturity. This is an evil; and all the farmer can do, is to make the best possible provision against it.

Generally speaking, nothing is better calculated to ward off the effects of droughts, than good cultivation, by ploughing sufficiently deep and effectually, and manuring well.—Ground that is well mellowed, to a proper depth, will stand a drought much better than that which is ploughed shallow and left in clods; and that which is well manured will retain more moisture than that which is poor. Again, ground which is thus well prepared, and manured, shoots forth its crop so rapidly, that the ground is soon covered and shaded from the sun; and, for this reason, retains its moisture longer. The same may be observed of mowing-lands.

Gypsum is also an antidote to droughts; and, fortunately, it suits the soils best which are most affected in this way.

Another way to avoid the effects of droughts is, to cultivate swamp-lands more extensively, in raising such productions as are most liable to receive injury in this way. Such lands, when well drained, and duly mixed with proper earths, or other manures, may undoubtedly be rendered excellent for almost every summer crop which is liable to be injured by too much dry weather. Wet lands also, which have been hollow-drained, will stand a drought much better than in their original wet state.

Two tea-spoonfuls of mustard from the mustard pot, mixed with water, and swallowed, instantly operates as an emetic, and are recommended in cases of accidental or other internal poisoning.

Cabbage.

Although this is a common garden production, very little attention is given to varieties, or to a succession for the table; and size is regarded rather than quality. Cabbages may be in use ten or eleven months in the year. The early sorts, if the plants are reared in a hot-bed, may be fit to eat in July, and Savoys keep good till May. Every farmer understands the culture of this plant: but few have experienced the advantages of transplanting them *twice*, i. e., first from the seed-bed where they are generally crowded, and have crooked stems, into a bed of rich mould, at four to six inches apart, which is termed *pricked out;* and secondly, when they have become thrifty and of good size, into the place where they are to head. A hundred may be pricked out with a dibble in a few moments, and the plants are rendered doubly valuable by it. The dibble is a sharp pointed stick, with which a hole is made for the plant, and when it is inserted in it, the earth is pressed to the root. The Savoy is the most delicate, and keeps best for late spring use. Cabbages keep well during winter in a trench, the heads down close together, and roots even with the surface, covered merely with earth; but they should be thus buried in a dry soil, and as late as possible before winter sets in. Cobbett recommends, as the best mode of preserving cabbage in winter as follows:

"Lay out a piece of ground four feet wide, and as long as is required for your cabbages. Dig on each side of it a little trench, a foot deep, and throw the earth upon the four feet bed. Make the top of the bed level and smooth. Lay some poles, or old rails, at a foot apart, long-ways upon the bed. Then put some smaller poles, or stout sticks, cross-ways upon the rails or poles, and put these last at five or six inches apart. Upon these lay corn-stalks or broomcorn-stalks or brush of trees, not very thick, but sufficiently thick to cover all over. Then just as the frost is about to lock up the earth, take up the cabbages, knock all dirt out of their roots, take off all dead or yellow looking leaves, and some of the outside leaves besides; put the cabbages, head downwards, upon the bed, their roots sticking up; and cover them so thick with straw as for the straw to come up nearly to the root of the cabbage. Do not pack them quite close. It is better if they do not touch each other. Lay some bits of wood, or brush-wood to prevent the straw from blowing off. If the frost catch you before you have got the cabbages up, cut them off close to the ground and let the stumps, instead of the roots, stick up through the straw. Out of this stack you will take your cabbages perfectly green and good in the spring, when the frost breaks up; and to this stack you can, at all times, go, in the winter, with the greatest facility, and get your cabbages for use, which you can to no other species of conservatory that I ever saw or heard of. The hollow part below the cabbage takes away all wet that may come from occasional rains or meltings of snows, and the little ditches on the sides of the bed keep the bed itself free from being soaked with wet. Even if deep snows come and lie for months, as in Nova Scotia, New Brunswick, and Canada, it is only removing the snow a little, and here are the cabbages always fresh and good."

We have no doubt of the utility of this mode; and to those who raise cabbages for winter and spring market, when the price is always high, Cobbett's directions are particularly worthy of attention.

One extra Hen.

We wish to inquire of our subscribers what will be the expense of keeping one additional hen; for we well know that the profit of a single fowl will pay the whole annual expense of a good agricultural newspaper!

Now if we can possibly contrive to give to our brethren useful hints enough, in the course of a whole year, to enable them and each of them, to feed, and support, and protect, so much additional stock on their premises, they could not feel that they are losing money by our acquaintance.

An interesting article on keeping hens has been the rounds of the papers, and we are inclined to think that great improvement may be made on the common mode of keeping this useful kind of stock. We know they are sometimes troublesome in the garden, as two legged animals often are, and we doubt whether they ever ought to run at large—though they certainly labor advantageously in the garden at certain seasons of the year and help us to destroy enemies that the useful toad seems to overlook.

We hope a few more friends of the hen will try experiments on shutting the animal up and letting her have abundance of food and of gravel and lime, and they may be able to report the net profits of the process.

As to other two-footed animals there may be some doubt about the propriety of putting them in fetters before they have committed any crime, lest they might enter into temptation—but hens have not wit enough to resist, or to evade your barricades, though not erected more than four feet high, provided pickets are ranged on the top to make it an uneasy place for them to rest on. For fowls never fly over a fence without an attempt to rest on it, unless they are excessively frightened.